

Amendment of the claims under Article 19(1) (Rule 46)

1. (Amended) A laser driving device comprising:

a laser driving section for supplying a driving current for causing a laser to emit light;

a temperature detecting section for detecting a temperature of the laser; and

a voltage control section for supplying a source voltage to the laser driving section while changing a voltage value of the source voltage in accordance with the temperature detected by the temperature detecting section,

wherein the laser driving section and the laser become operable with supply of the source voltage, and the laser driving section supplies the driving current based on an instruction value which is different from the voltage value of the source voltage.

2. (Amended) The laser driving device of claim 1, further comprising a power control section for causing the laser to emit the light with a predetermined emission power

by controlling the instruction value for the laser driving section so as to adjust the driving current supplied from the laser driving section.

3. The laser driving device of claim 2, further comprising a setting section for instructing a setting of a reference voltage in accordance with an amount of light to be emitted by the laser.

4. The laser driving device of claim 2, further comprising an emission power detecting section for detecting a value which is in accordance with the emission power of the laser and for outputting a signal corresponding to the value,

wherein the power control section controls an instruction value to the laser driving section based on a voltage of the signal output from the emission power detecting section, and the reference voltage, in such a manner that the voltage of the signal equals the reference voltage.

5. The laser driving device of claim 4, wherein,
characteristics between an operating voltage, which is necessary for the laser to operate, and the driving current differ depending on temperature; and

the voltage control section determines the voltage value of the source voltage based on the driving current and the characteristics.

6. (Amended) The laser driving device of claim 5, wherein,

the operating voltage increases as the temperature decreases; and

the voltage control section supplies a higher source voltage as the temperature decreases.

7. (Amended) The laser driving device of claim 1, wherein the laser driving section outputs the driving current for causing a laser whose wavelength is within a range from 400 nm to 430 nm to emit light.

8. (Amended) An optical head for performing a data write and/or read operation with respect to an information recording layer of a storage medium, comprising:

a laser;

a laser driving device for supplying a driving current for causing the laser to emit light;

an objective lens for converging light from the laser onto the information recording layer; and

a light-receiving section for receiving light reflected from the information recording layer and for outputting a signal which is in accordance with the amount of light, wherein,

the laser driving device includes:

a laser driving section for supplying a driving current for causing the laser to emit light;

a temperature detecting section for detecting a temperature of the laser; and

a voltage control section for supplying a source voltage to the laser driving section while changing a voltage value of the source voltage in accordance with the

temperature detected by the temperature detecting section,
wherein the laser driving section and the laser become
operable with supply of the source voltage, and the laser
driving section supplies the driving current based on an
instruction value which is different from the voltage value
of the source voltage.

9. (Amended) An optical disk apparatus for performing a
data write and/or read operation with respect to an
information recording layer of an optical disk, comprising:

an optical head for radiating light toward the optical
disk, and generating and outputting a servo signal based on
light reflected from the information recording layer;

a control signal generating section for generating a
control signal for controlling a position of a focal point of
the light based on the servo signal output from the optical
head; and

a driving circuit for generating a driving signal based
on the control signal, wherein,

the optical head includes:

a laser;

a laser driving device for supplying a driving current for causing the laser to emit light;

an objective lens for converging light from the laser onto the information recording layer;

an actuator for adjusting a position of the objective lens based on the driving signal; and

a light-receiving section for receiving light reflected from the information recording layer and for outputting a signal which is in accordance with the amount of light, wherein,

the laser driving device includes:

a laser driving section for supplying a driving current for causing the laser to emit light;

a temperature detecting section for detecting a temperature of the laser; and

a voltage control section for supplying a source voltage to the laser driving section while changing a voltage value of the source voltage in accordance with the temperature detected by the temperature detecting section,

wherein the laser driving section and the laser become operable with supply of the source voltage, and the laser driving section supplies the driving current based on an instruction value which is different from the voltage value of the source voltage.

10. (Amended) A laser driving method comprising the steps of:

supplying a driving current for causing a laser to emit light;

detecting a temperature of the laser; and

supplying a source voltage when executing the step of supplying the driving current, a voltage value of the source voltage being changed in accordance with the detected temperature, wherein the step of supplying the driving current and the laser emission based on the driving current become operable with supply of the source voltage, and the step of supplying the driving current supplies the driving current based on an instruction value which is different from the voltage value of the source voltage.